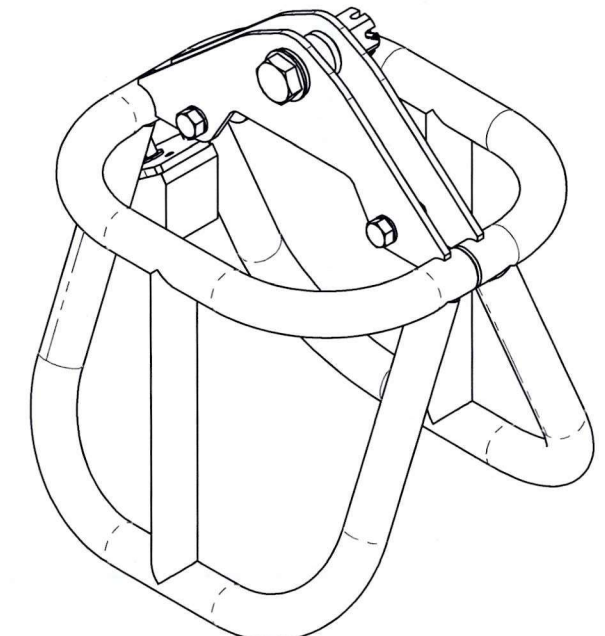
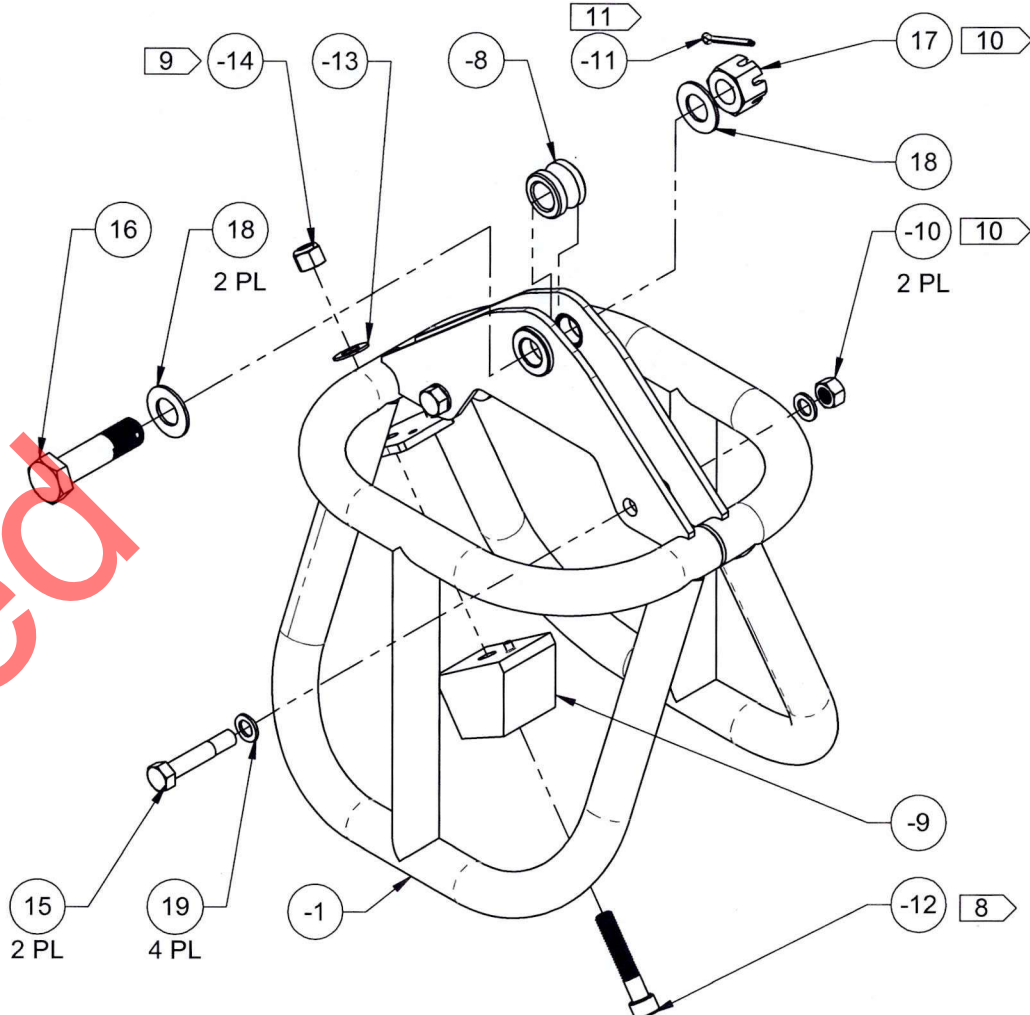
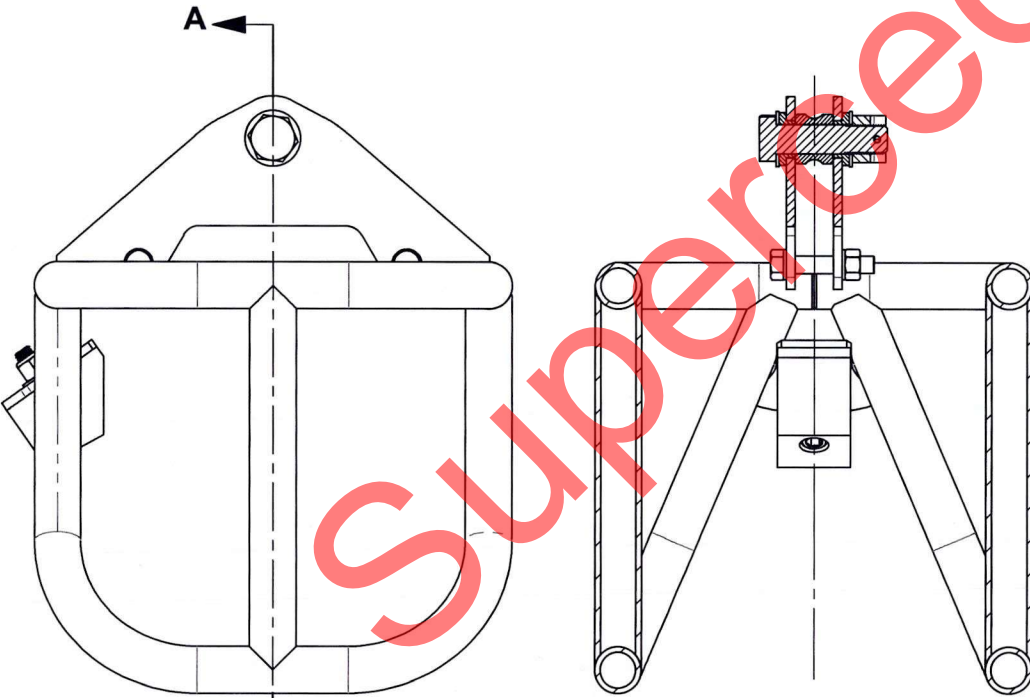


ITEM #	QTY	PART #	PART TITLE
-1	1	C3-C-1	WELDMENT C3 CAGE
-8	1	C3-C-8	LIFTING BUSHING
-9	1	C3-C-9	BUMPER
-10	2	C3-C-10	McMaster#94191A350 OR EQUIV (CAD PLATE GRADE 8 STEEL HEX NUT 3/8"-24)
-11	1	C3-C-11	McMaster#90157A112 OR EQUIV (STEEL CAD PLATED COTTER PIN 1/8" DIA. X 1-1/4" LG.)
-12	1	C3-C-12	McMaster#92562A358 OR EQUIV (CAD PLATED STEEL SOCKET HEAD SCREW 3/8"-16 X 2" LG.)
-13	1	C3-C-13	McMaster#98023A031 OR EQUIV. (YELLOW ZINC PLATED GRADE 8 STEEL WASHER 0.406" ID. X 0.812" OD. X 0.051"-0.080" THK.)
-14	1	C3-C-14	McMaster#97135A230 OR EQUIV. (ZINC YELLOW PLATED GRADE 8 STEEL NYLON INSERT LOCKNUT 3/8"-16)
15	2	AN6-17A	CAD PLATE STEEL HEX BOLT 3/8"-24 X 1.953" LG.
16	1	AN10-22	CAD PLATE STEEL HEX HEAD 5/8"-18 X 2.391" LG.
17	1	AN310-10	CAD PLATE STEEL CASTLE NUT 5/8"-18
18	2	NAS1149F1032P	STEEL WASHER 0.640" ID. X 1.188 OD. X 0.065" THK.
19	4	NAS1149F0663P	STEEL WASHER 0.390" ID. X 0.625" OD. X 0.063" THK.



C3-C C3 CAGE

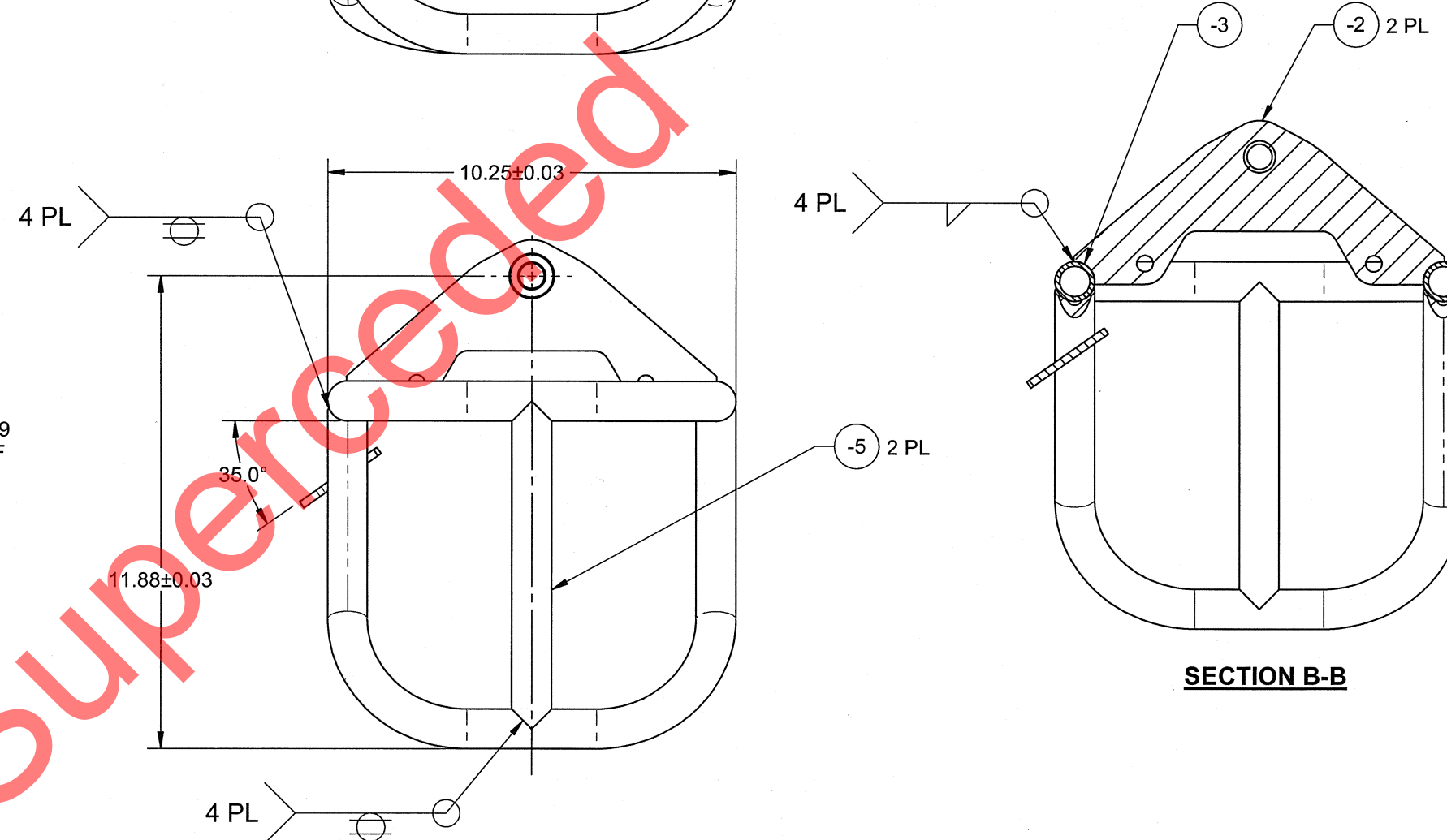
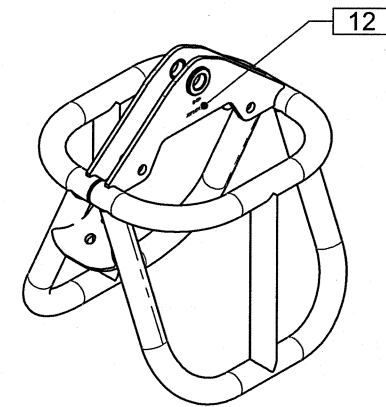
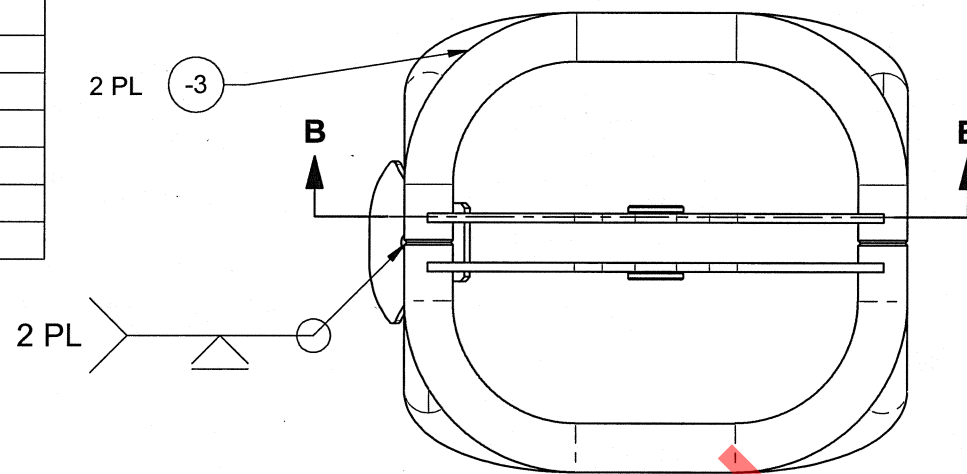


SECTION A-A

NOTES:
1) MATERIAL: N/A
2) HEAT TREAT: N/A
3) FINISH: N/A
4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"
5) UNITS: INCHES UNLESS OTHERWISE NOTED
6) IDENTIFICATION: N/A
7) ASSEMBLE AS SHOWN
8) APPLY RED THREADLOCKER LOCTITE 263/262 ON THREADS OF ITEM -12 THEN ASSEMBLE WITH ITEM -14, AND REMOVE EXCESS
9) TORQUE ITEM -14 TO 20-28 FT-LBS
10) INSTALL ITEM -10 AND ITEM 17 HAND TIGHT
11) DO NOT FOLD COTTER PIN

G	FOR PREVIOUS REV'S SEE OLD PDFs P/N ATTRIBUTED TO ALL McMaster# TO MATCH THE MANUAL	19-718	VM
REV.	DESCRIPTION	ECN #	BY
DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB		
MFG. APPR.	DD		
APPROVED	WY		
DATE	2019-06-03	TOOL PART # C3-C	
		REV. G SHEET 1 OF 10	
		TITLE C3 CAGE	
		SCALE NTS	
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ITEM #	QTY	PART #	PART TITLE
-2	2	C3-C-2	LIFTING PLATE
-3	2	C3-C-3	TOP SEMI-RING
-4	2	C3-C-4	SIDE LOOP C3 CAGE
-5	2	C3-C-5	STIFFENER BAR
-6	1	C3-C-6	BUMPER BRACKET
-7	2	C3-C-7	BOSS

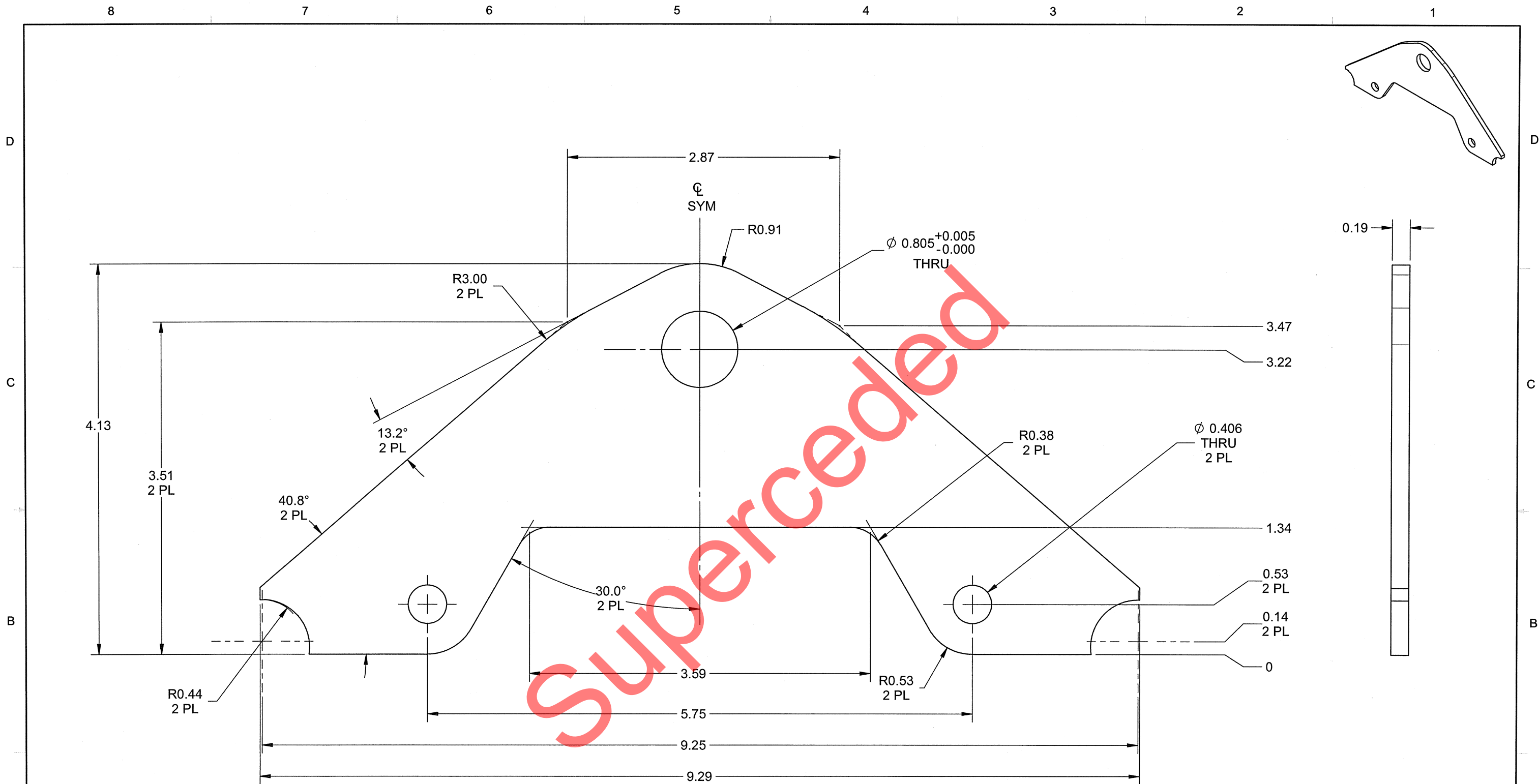


SECTION B-B

- NOTES:
- 1) MATERIAL: N/A
 - 2) HEAT TREAT: N/A
 - 3) FINISH: POWDERCOAT RED QSI 005 OR MIL-PRF-24712
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) IDENTIFICATION: N/A
 - 7) ASSEMBLE AS SHOWN
 - 8) REMOVE ALL SHARP EDGES, BURRS, AND WELD SPATTERS
 - 9) USE WELD FIXTURE C-3, FILLET AROUND ALL PART CONNECTIONS 100%
 - 10) HOLES OF BOTH SETS OF -2 AND -7 MUST ALIGN.
 - 11) TRIM ITEM-6 BUMPER BRACKET AS REQUIRED TO MATCH TUBES PROFILE FOR WELDING.
 - 12) INK STAMP T/N AND S/N PER QSI 044 AFTER POWDER COAT

C3-C-1 WELDMENT C3 CAGE

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 2 OF 10
APPROVED	WJ	TITLE	SCALE
		C3 CAGE	NTS
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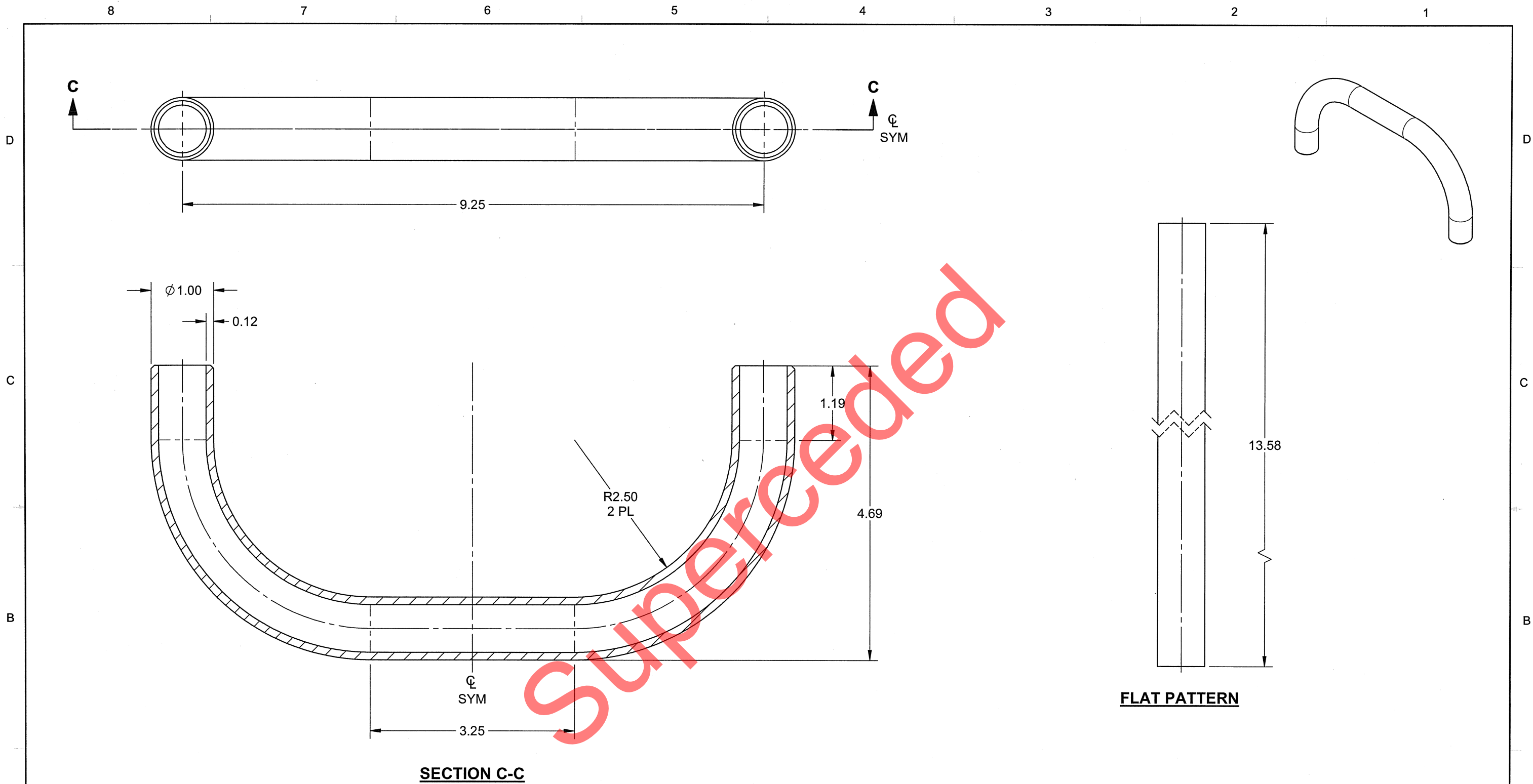
NOTES:

- 1) MATERIAL: 1018/1020/1025 CR
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1^\circ$
X.XX = $\pm 0.01"$ / $\pm 0.5^\circ$
X.XXX = $\pm 0.005"$ / $\pm 0.1^\circ$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05^\circ$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005"$
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A
- 8) ALL NON-DIMENSIONED FEATURES MUST MAINTAIN A TOLERANCE OF $\pm 0.01"$ PER CAD FILE C3-C-2 REV. G.STEP

C3-C-2 LIFTING PLATE

8

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 3 OF 10
APPROVED		TITLE	SCALE
DATE	5/2/2019	C3 CAGE	NTS
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NOTES:

- 1) MATERIAL: A513 TYPE 5 DOM TUBING
2) HEAT TREAT: N/A
3) FINISH: N/A
4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°

PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
6) REMOVE ALL SHARP EDGES AND BURRS
7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 4 OF 10
APPROVED	VM	TITLE	SCALE
		C3 CAGE	NTS
DATE	5/2/2019	COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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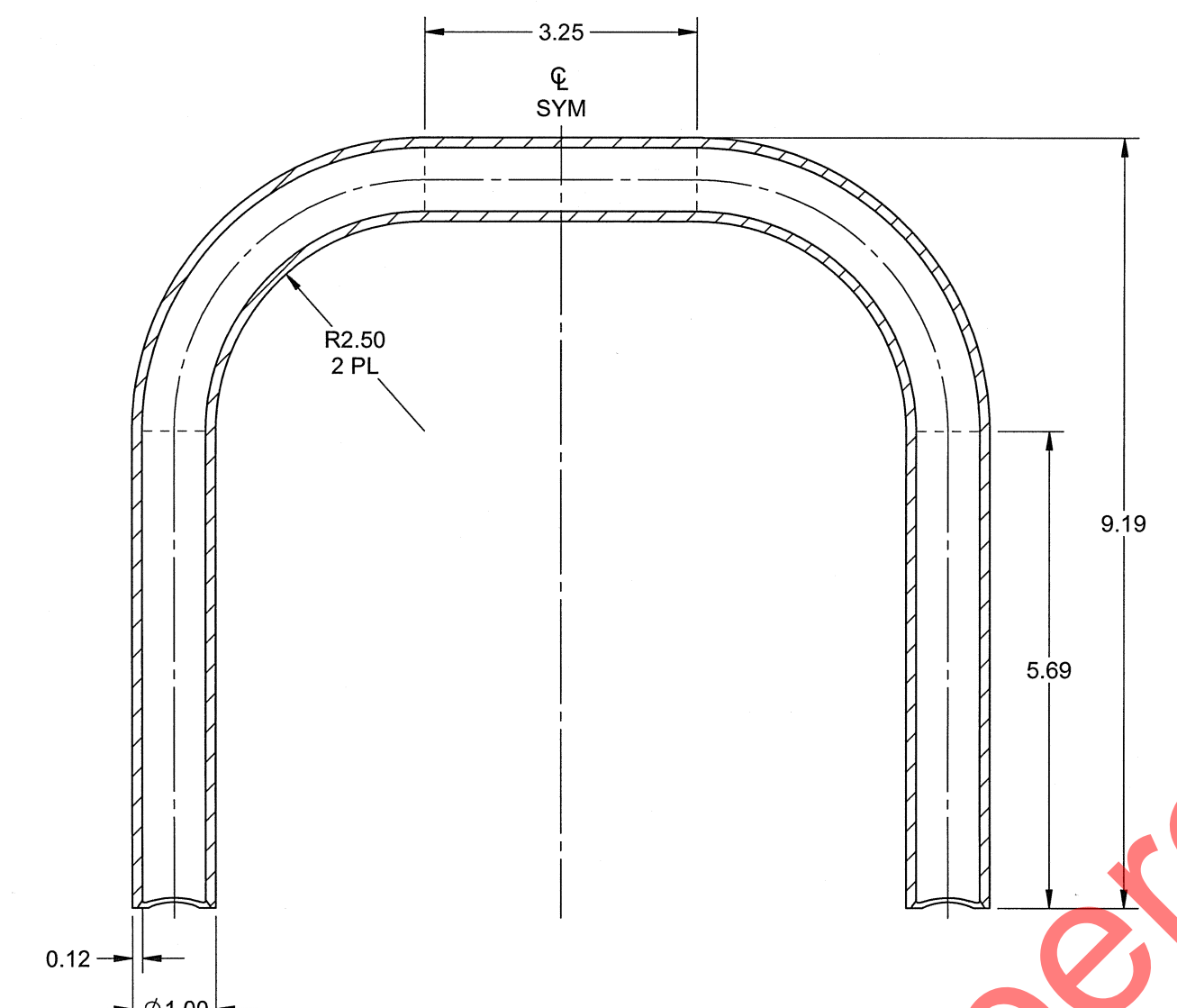
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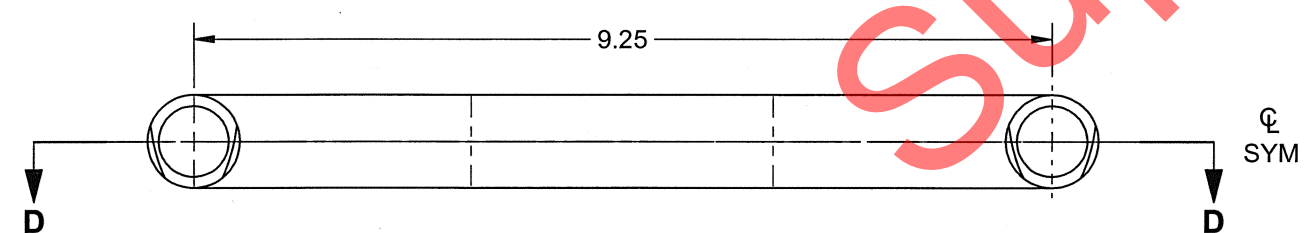
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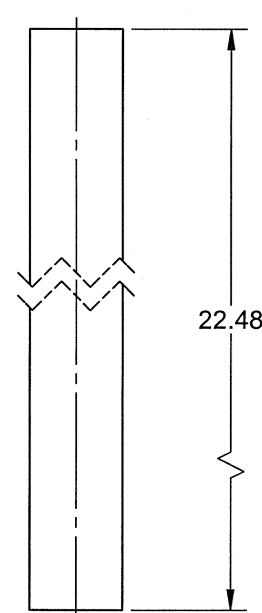
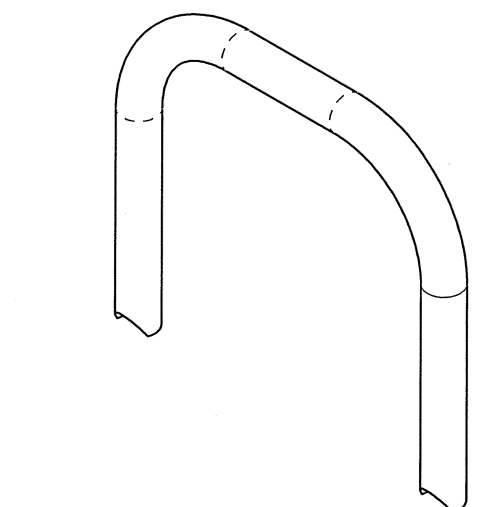
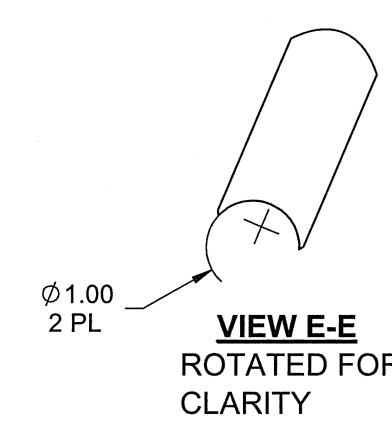
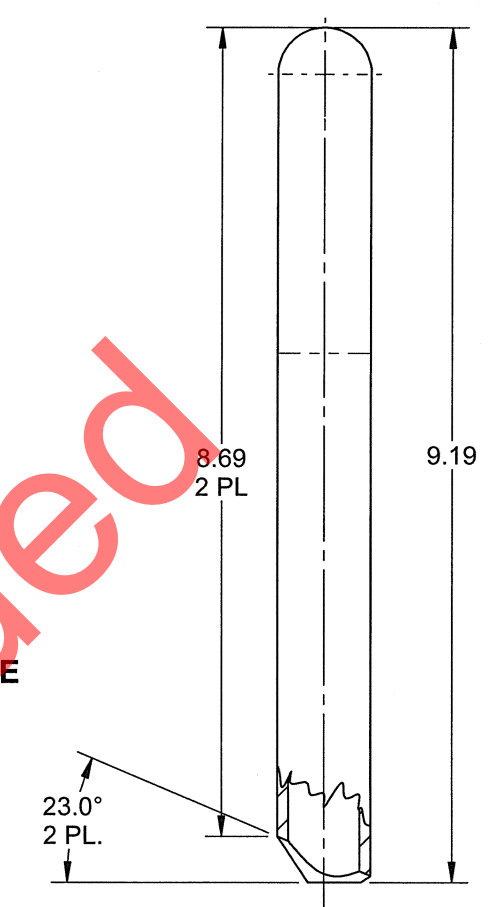
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SECTION D-D



C3-C4 SIDE LOOP C3 CAGE



FLAT PATTERN

- NOTES:
- 1) MATERIAL: A513 TYPE 5 DOM TUBING
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
 - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 6) REMOVE ALL SHARP EDGES AND BURRS
 - 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 5 OF 10
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
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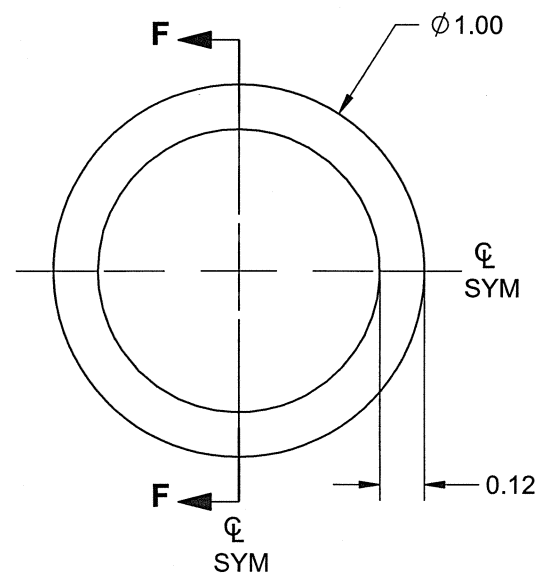
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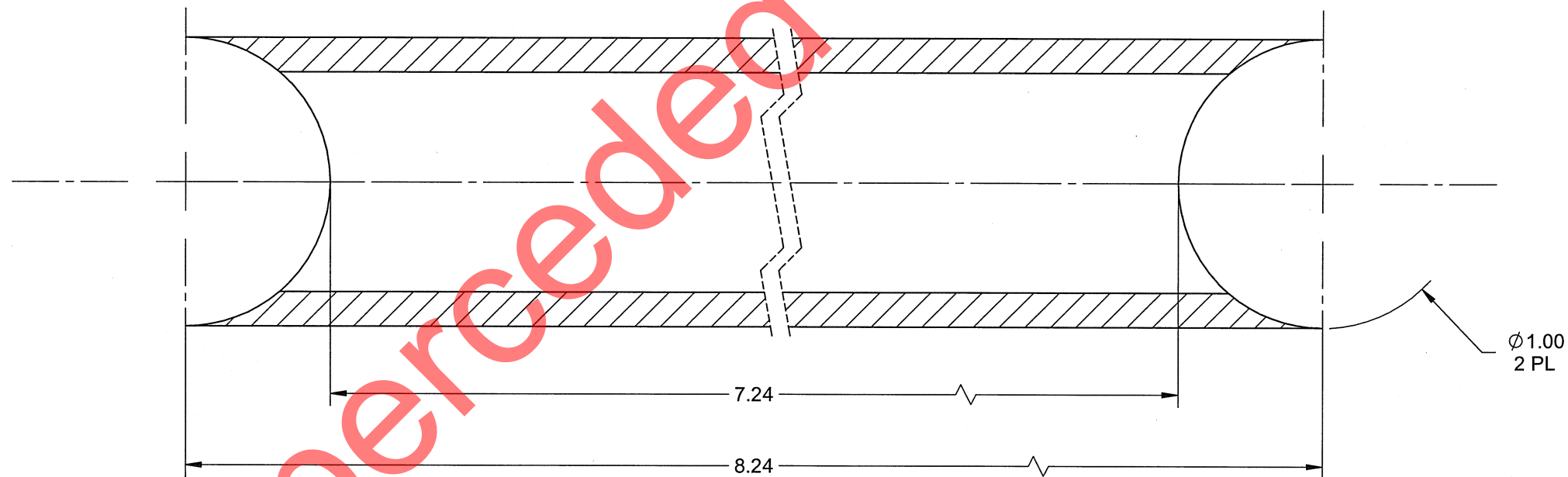
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C3-C-5 STIFFENER BAR



SECTION F-F

NOTES:

- 1) MATERIAL: A513 TYPE 5 DOM TUBING
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°

PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 6 OF 10
APPROVED	<i>VM</i>	TITLE	SCALE
DATE	5/2/2019	C3 CAGE	NTS
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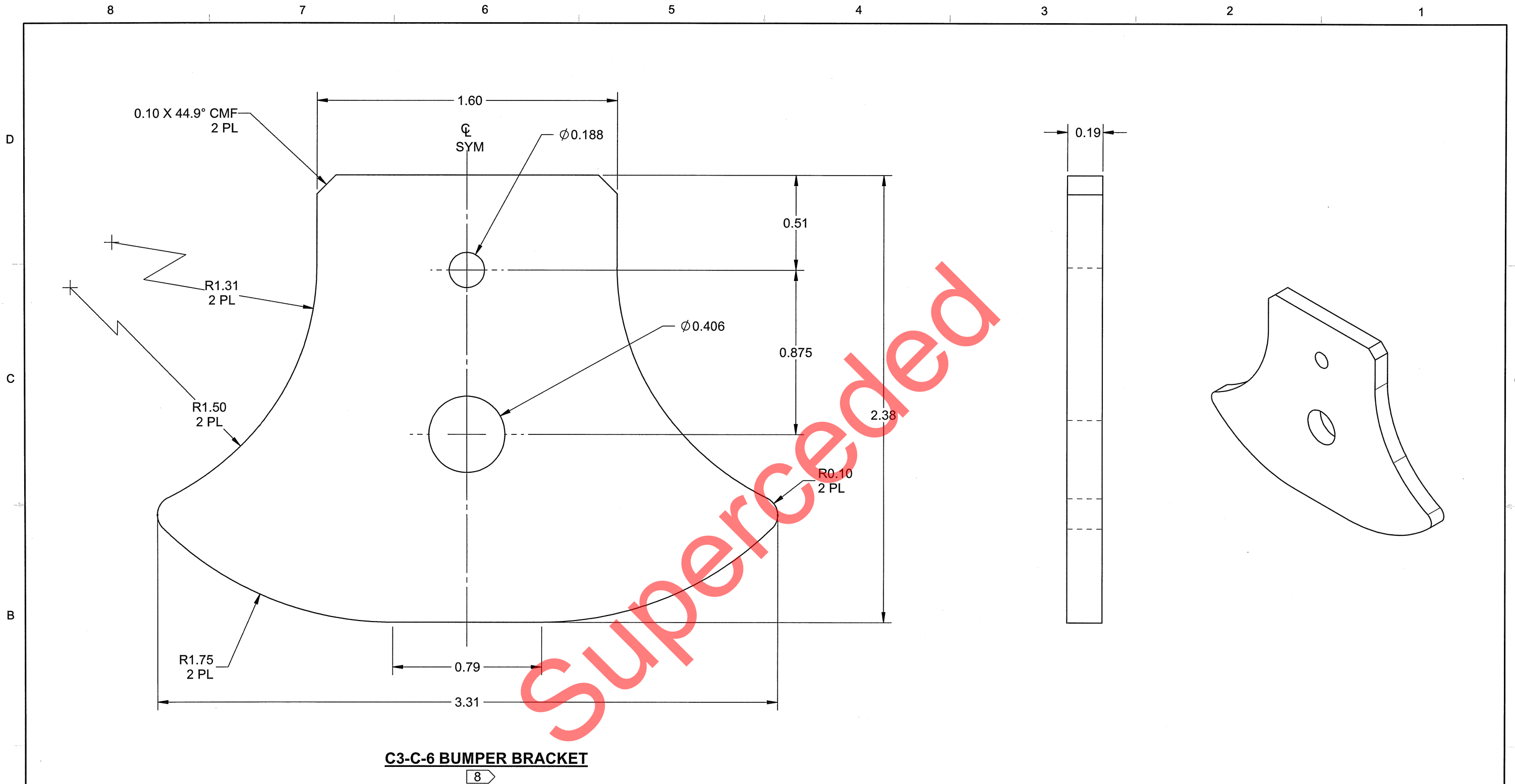
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NOTES:
1) MATERIAL: 1018/1020/1025 CR
2) HEAT TREAT: N/A
3) FINISH: N/A
4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"
5) UNITS: INCHES UNLESS OTHERWISE NOTED
6) REMOVE ALL SHARP EDGES AND BURRS
7) IDENTIFICATION: N/A
8) ALL NON-DIMENSIONED FEATURES MUST MAINTAIN A TOLERANCE OF +/- 0.01" PER CAD FILE C3-C-6 REV. G.STEP

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 7 OF 10
APPROVED	W	TITLE	SCALE
		C3 CAGE	NTS
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7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DP	C3-C	SHEET 8 OF 10
APPROVED		TITLE	SCALE
DATE 5/2/2019		C3 CAGE	NTS 
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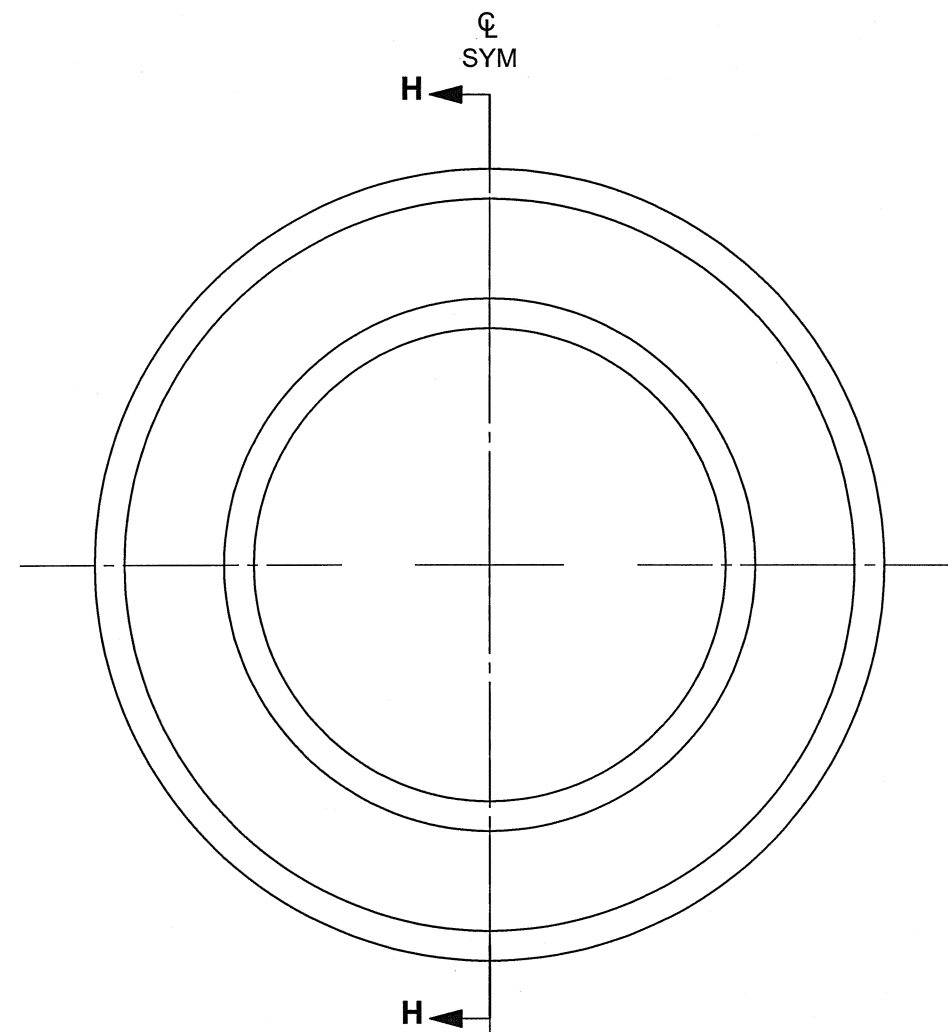
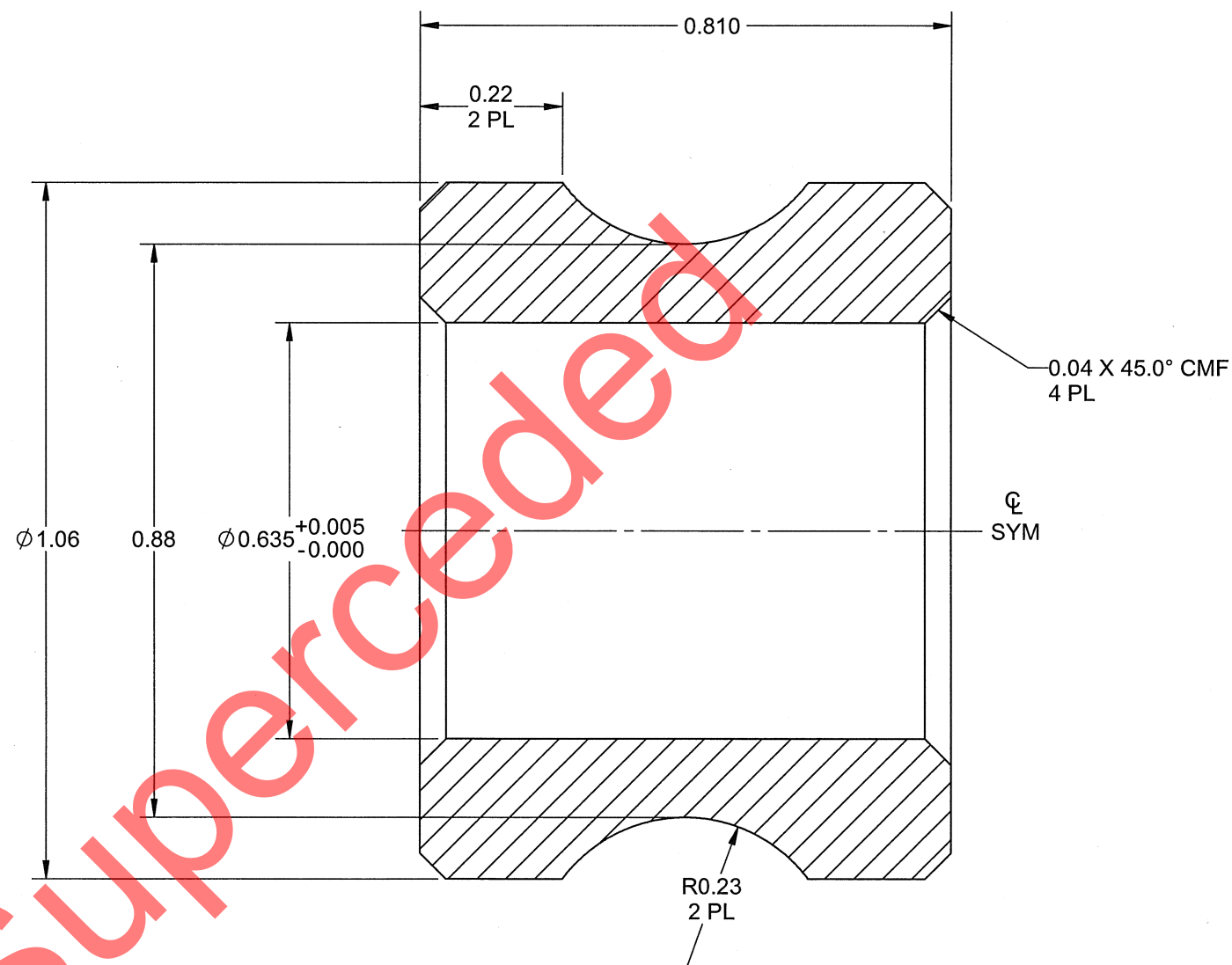
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**C3-C-8 LIFTING BUSHING****SECTION H-H****NOTES:**

- 1) MATERIAL: 4140 (28-32 RC)
- 2) HEAT TREAT: N/A
- 3) FINISH: NICKEL PLATE PER MIL-C-26074 CLASS 2 GRADE B OR QQ-N-290A CLASS 2 GRADE E
- 4) TOLERANCES: X.X = ± 0.1 " / $\pm 1^\circ$
X.XX = ± 0.01 " / $\pm 0.5^\circ$
X.XXX = ± 0.005 " / $\pm 0.1^\circ$
X.XXXX = ± 0.0005 " / $\pm 0.05^\circ$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = ± 0.005 "
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 9 OF 10
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
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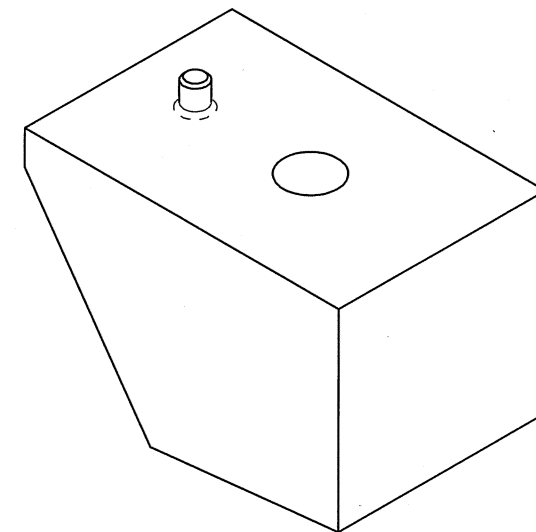
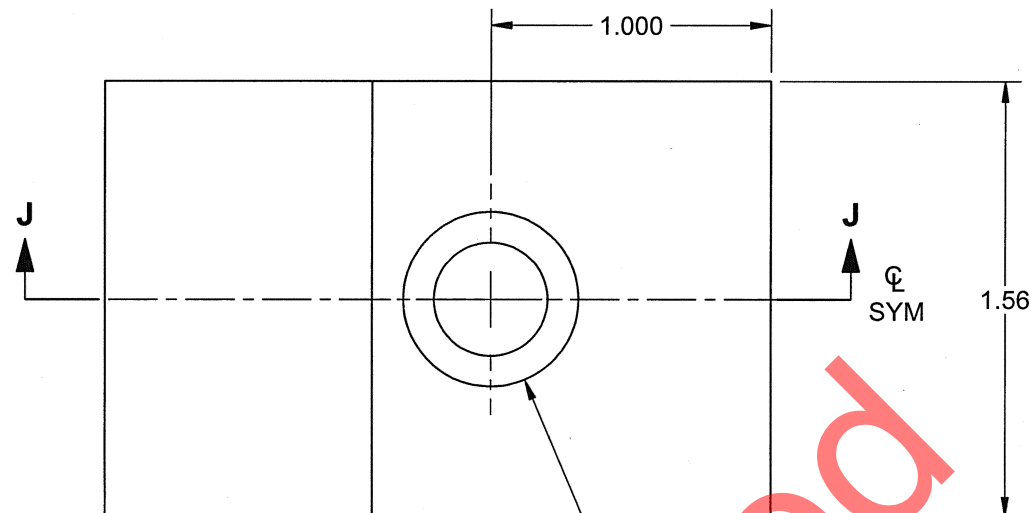
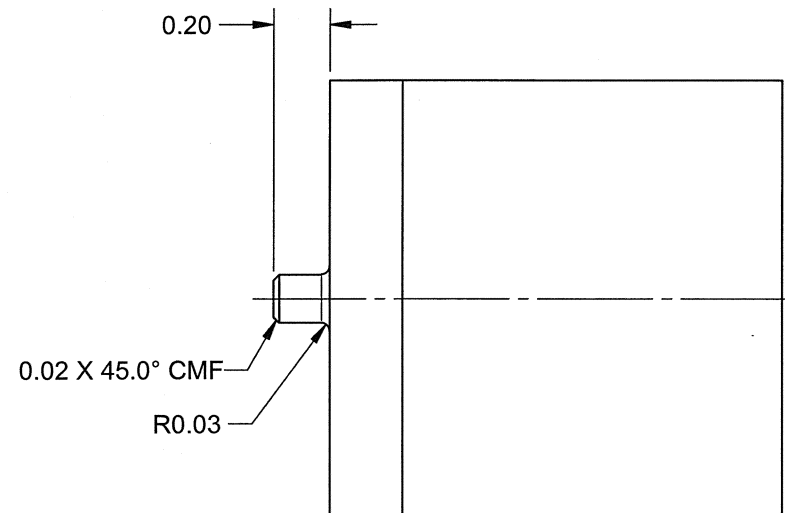
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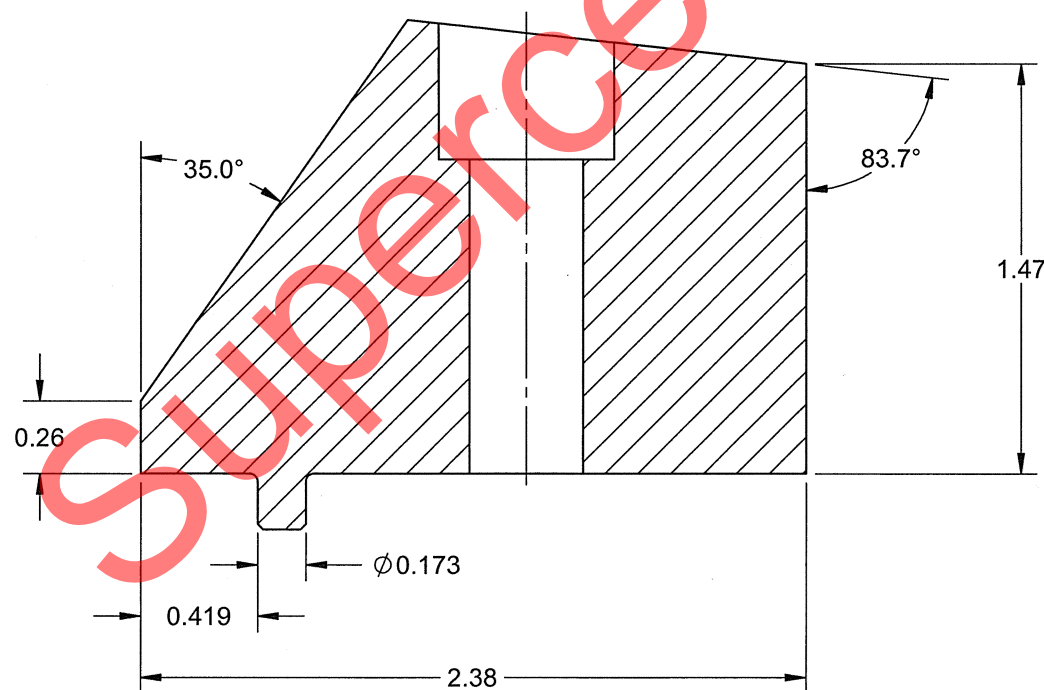
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Ø0.406 THRU
Ø0.625 ±0.419



C3-C-9 BUMPER

SECTION J-J

NOTES:

- 1) MATERIAL: UHMW
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A

- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°

PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	MBB	TOOL PART #	REV. G
MFG. APPR.	DD	C3-C	SHEET 10 OF 10
APPROVED		TITLE	SCALE
		C3 CAGE	NTS
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